

## **ABSTRACT OF THE DISCLOSURE**

A method for optimizing the operation of several compressor units in a natural gas compression station. After a second or further compressor unit is started, the speeds of the running compressor units are set according to a fixed speed ratio in relation to characteristic data established for each compressor unit. The fixed speed ratio is altered by adjusting the rate of flow to the same percentage via the speed of rotation until the preventive pump valves of the gas compressor station are closed, whereupon the operating points of the compressor units are guided, where possible, in the characteristic data thereof, to the maximum efficiency. The optimum set speed values are determined according to continuous operating characteristics of the gas compression station by coordinated variation of the set speeds of the compressors, taking into account fuel consumption of the gas compression station. The stored fixed speed ratio is adjusted according to the optimum set speed values thus determined and stored.